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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/673,978	09/29/2003	Paul Deeds	MSFT-2745/305359.1	2592
41505	7590	06/28/2005	EXAMINER	
WOODCOCK WASHBURN LLP			QIN, JIANCHUN	
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PHILADELPHIA, PA 19103			PAPER NUMBER	

2837

DATE MAILED: 06/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

AK

Office Action Summary	Application No. 10/673,978	Applicant(s) DEEDS, PAUL	
	Examiner Jianchun Qin	Art Unit 2837	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1, 8, 14 and 19 is/are rejected.
- 7) ☐ Claim(s) 2-7, 9-13, 15-18, 20-23 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 29 September 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>12/11/2003</u> | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

Claim Objection

1. Claims 2, 6, 7 and 18 are objected to because of the following minor informalities:

Claim 2, lines 6-8, there is no close parenthesis matching the open parenthesis in "Artist Albums (".

Claim 2, 6, 7 and 18, the variables used in the claims, such as StyleWeight(Artist, Style), LocalRating(Album), Pick(Album), are indefinite. Each variable recited in a claim must be defined clearly.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

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3. Claims 1, 8, 14 and 19 are rejected under 35 U.S.C. 102(e) as being anticipated by Strasser et al. (U.S. Pub. No. 20040177744).

With respect to claim 1:

Strasser et al. teach a method of determining a numerical value of similarity as between a pair of artists (section 0001), the method comprising: calculating for each artist a list of artist style values, each artist style value being representative of a style of the artist and a weight of such style as exhibited by such artist (sections 0017-0023 and section 0037, lines 12-15); calculating a set of style similarity values, each style similarity value setting forth a relative similarity as between two styles (section 0029, lines 1-8 and lines 16-20); and calculating, based on the list of artist style values for each artist and the calculated set of style similarity values, a style list comparison similarity score representing a relative similarity of the styles of the pair of artists (section 0029, lines 1-8 and lines 20-23).

With respect to claim 8:

The teaching of Strasser et al. further includes: obtaining for each artist a list of artist tone values, each artist tone value being representative of a tone of the artist and a weight of such tone as exhibited by such artist (sections 0018, 0022 and 0033); and calculating, based on the list of artist tone values for each artist, a tone list comparison similarity score representing a relative similarity of the tones of the pair of artists.

With respect to claim 14:

Strasser et al. teach a method of determining a numerical value of similarity as between a pair of comparison subjects (section 0001), the method comprising:

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calculating for each comparison subject a list of comparison subject attribute values, each comparison subject attribute value being representative of an instance of an attribute of the comparison subject and a weight of such instance as exhibited by such comparison subject (sections 0017-0023 and section 0037, lines 12-15); calculating a set of attribute instance similarity values, each attribute instance similarity value setting forth a relative similarity as between two instances of the attribute (section 0029, lines 1-8 and lines 16-20); and calculating, based on the list of comparison subject attribute values for each comparison subject and the calculated set of attribute instance similarity values, an attribute instance list comparison similarity score representing a relative similarity of the instances of the attribute of the pair of comparison subjects (section 0029, lines 1-8 and lines 20-23).

With respect to claim 19:

The teaching of Strasser et al. further includes: obtaining for each comparison subject another list of comparison subject attribute values, each comparison subject attribute value in the another list being representative of an instance of another attribute of the comparison subject and a weight of such another instance as exhibited by such comparison subject (sections 0022 and 0033); and calculating, based on the another list of comparison subject attribute values for each comparison subject, another attribute instance list comparison similarity score representing a relative similarity of the instances of the another attribute of the pair of comparison subjects (section 0029, lines 1-8 and lines 20-23).

Allowable Subject Matter

4. Claims 2-7, 9-13, 15-18 and 20-23 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Reasons for Allowance

5. The following is an examiner's statement of reasons for allowance:

The primary reason for the allowance of claim 2 is the inclusion of the limitation that each artist style value is calculated as:

$$\begin{aligned} \text{ArtistStyle}(\text{Artist}, \text{Style}) &= 10 * \text{StyleWeight}(\text{Artist}, \text{Style}) + \\ &\sum \text{Artist Albums (StyleWeight}(\text{Album}, \text{Style}) * \\ & (1 + \text{LocalRating}(\text{Album}) + \text{Pick}(\text{Album}))), \end{aligned}$$

wherein each instance of $\text{StyleWeight}(\text{Artist}, \text{style})$, $\text{Artist Albums (StyleWeight}(\text{Album}, \text{style})$, $\text{LocalRating}(\text{Album})$, and $\text{Pick}(\text{Album})$ is obtained from a database. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 3-5 is the inclusion of the limitation of truncating the list of artist style values for each artist to cull low-weight styles therein, and comprising calculating, based on the truncated list of artist style values for each artist and the calculated set of style similarity values, a style list comparison similarity score representing a relative similarity of the styles of the pair of

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artists. It is this limitation found in each of the claims, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes these claims allowable over the prior art.

The primary reason for the allowance of claim 6 is the inclusion of the limitation that each style similarity value is calculated as:

$$1000 * \text{CoStyleSum}(\text{Style1}, \text{Style2}) / \\ (\text{StyleSum}(\text{Style1}) + \text{StyleSum}(\text{Style2}) - \\ \text{CoStyleSum}(\text{Style1}, \text{Style2})),$$

where:

$$\text{CoStyleSum}(\text{Style1}, \text{Style2}) = \\ \Sigma \text{ArtistMagnitude}(\text{Artist}) [\text{over all artists with Style1 and Style2}] + \\ \Sigma \text{AlbumMagnitude}(\text{Album}) [\text{over all albums with Style1 and Style2}];$$

and

$$\text{StyleSum}(\text{Style}) = \\ \Sigma \text{ArtistMagnitude}(\text{Artist}) [\text{over all artists with Style}] + \\ \Sigma \text{AlbumMagnitude}(\text{Album}) [\text{over all albums with Style}],$$

and where:

$$\text{ArtistMagnitude}(\text{Artist}) (\text{a measure of magnitude for each artist}) = \\ 4 + \text{Importance}(\text{Artist}) + \text{Quality}(\text{Artist}) + \text{Popularity}(\text{Artist}); \text{ and}$$

$$\text{AlbumMagnitude}(\text{Album}) (\text{a measure of magnitude for each album}) \\ = \\ 3 + \text{Pick}(\text{Album}) + (\text{GlobalRating}(\text{Album}) - 6 [\text{if GlobalRating}(\text{Album}) \\ > 6, 0 \text{ otherwise}]]);$$

wherein each instance of Impodance(Adist), Quality(Adist), Popularity(Adist), Pick(Album), and GlobalRating(Album) is obtained from a database. It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claim 7 is the inclusion of the limitation the style list comparison similarity score is calculated as:

$$\text{StyleListCompare}(A, B) = (\text{Compare}(A, B) + \text{Compare}(B, A)) / 2$$

where,

$$\text{Compare}(A, B) = \frac{\sum_{a \in A} \max \{ \text{StyleSimilarity}(a, b \in B) \} \times \text{Weight}(a)}{\sum_{x \in A} \text{Weight}(x)}$$

It is this limitation found in the claim, as it is claimed in the combination that has not been found, taught or suggested by the prior art of record, which makes this claim allowable over the prior art.

The primary reason for the allowance of claims 9-11 is the inclusion of the claimed method steps of: calculating a bonus comparison function that results in a bonus weight representative of an aspect of at least one of the pair of artists; and applying the bonus weight to a combination of the style list comparison similarity score and the tone list comparison similarity score to achieve a final similarity score. It is these

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limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claims 12 and 13 is the inclusion of the claimed method steps of: calculating a bonus comparison function that results in a bonus weight representative of an aspect of at least one of the pair of artists; applying the bonus weight to the style list comparison similarity score to achieve a final similarity score. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claims 15-17 is the inclusion of the claimed method step of truncating the list of comparison subject attribute values for each comparison subject to cull low-weight attribute instances therein, and comprising calculating, based on the truncated list of comparison subject attribute values for each comparison subject and the calculated set of attribute instance similarity values, an attribute instance list comparison similarity score representing a relative similarity of the instances of the attribute of the pair of comparison subjects. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claims 19-21 is the inclusion of the claimed method steps of: obtaining for each comparison subject another list of

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comparison subject attribute values, each comparison subject attribute value in the another list being representative of an instance of another attribute of the comparison subject and a weight of such another instance as exhibited by such comparison subject; and calculating, based on the another list of comparison subject attribute values for each comparison subject, another attribute instance list comparison similarity score representing a relative similarity of the instances of the another attribute of the pair of comparison subjects. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

The primary reason for the allowance of claims 22-23 is the inclusion of the claimed method steps of: calculating a bonus comparison function that results in a bonus weight representative of an aspect of at least one of the pair of comparison subjects; applying the bonus weight to the attribute list comparison similarity score to achieve a final similarity score. It is these limitations found in each of the claims, as they are claimed in the combination that have not been found, taught or suggested by the prior art of record, which make these claims allowable over the prior art.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Prior Art Citations

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

1) Fong et al. (U. S. Pat. No. 6182044) is entitled "System and method for analyzing and critiquing a vocal performance".

2) Tsai et al. (U. S. Pat. No. 6352432) is entitled "Karaoke Apparatus".

3) Katsuta (U. S. Pub. No. 20040055441) is entitled "Musical performance self-training apparatus".

Contact Information

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jianchun Qin whose telephone number is (571) 272-5981. The examiner can normally be reached on 8:00am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Martin can be reached on (571) 272-2107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

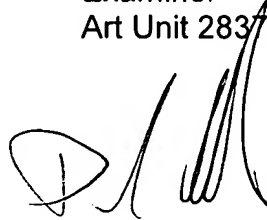
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JQ

June 24, 2005

Jianchun Qin
Examiner
Art Unit 2837



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